

Amendments to the Drawings

The attached sheet of new drawings in the application has been submitted in light of the Examiner's comments on page 2 of the outstanding Office Action where a request for the submission of drawings in the case is made. Support for the three formal drawings submitted with this response can be found on page 4 of the specification.

The specification has been amended in order to introduce a brief discussion of the drawings as required by the Rules of the Patent Office. This discussion has been introduced into the text on page 3.

Entry of the drawings into the application is respectfully requested.

REMARKS/ARGUMENTS

Claims 17-19 have been canceled. Claims 1-16 and new Claims 20-24 are active in the case. Reconsideration is respectfully requested.

The present invention relates to a backprojection and/or projection screen.

Specification Amendments

The specification has been amended in order to introduce therein appropriate section headings. Entry of the amendments is respectfully requested.

Claim Objection

The objection to Claims 2 is obviated by the amendment made to the claim which states that the subsurface effect produces a resolution of the screen ranging from 5×10^3 and 1×10^5 dpi.

Claim Amendments

Minor changes in language have been made to Claim 1 and the language of other claims has been corrected. None of amendments are believed to have introduced new matter into the case. New Claim 21 is supported by the text at page 5, lines 10-15. New Claims 22-24 correspond to previously active Claims 17-19. Entry of the amendments and new claims into the record is respectfully requested.

Claim Rejection, 35 USC 102

Claims 1, 2, 3, 5 and 14-16 stand rejected based on 35 USC 102(b) as anticipated by Iwata et al, U. S. Patent 6,327,008. This ground of rejection is respectfully traversed.

The Iwata et al patent discloses a light diffusing film which in its basic construction is formed of a light diffusing layer 18 on a transparent film substrate 12. As shown in Fig. 1, for instance, the light diffusing layer 18 is comprised of a light transmissive resin 16 that contains a light transmissive diffusing material 14. It is particularly important that the haze value on the surface of the light diffusing layer 18 be three or more, that the difference between the haze value along the normal and those along the lines $\pm 60^\circ$ apart from the normal is 0.7 or less and that the surface roughness Ra of the layer 18 is 0.2 μm or less. When the light diffusing layer has a surface roughness Ra of 0.2 μm or less, the layer is said to be able to greatly suppress diffuse reflections which may cause the display to whiten. Moreover, if the difference between the haze value along the normal and that along the lines $\pm 60^\circ$ apart from the normal are below four, the display would look blurred when viewed from an oblique angle. Still further, with respect to light diffusing layer 18, there should be a difference between the refractive index of light transmissive resin 16 and the refractive index of light transmissive diffusing material 14 so that the following inequality is observed: $0.01 \leq \Delta n \leq 0.5$. The application of the light diffusing film of the patent onto a display panel is said to inhibit scattering reflection which would otherwise cause the display to be whitish in appearance (see abstract).

Applicants submit, however, that the disclosure of a light diffusing layer on a transparent film substrate is not a description of the screen of the present invention where a first substrate, which may be transparent, is provided with a layer that effectively scatters light which enables a viewer of the screen to view and discern images at oblique viewing angles. The effectiveness of the screen of the present invention is that the subsurface of the light scattering layer enables the scattering of light along the surface of the screen so as to enable the viewing of images clearly at oblique angles to the surface. No description of such a configuration of a substrate and a light scattering layer is taught by Iwata et al. In fact, as

seen from the brief description above concerning the layered structure taught by the reference, the several factors of surface roughness, haze value of the light diffusing layer and the difference in refractive index values of a light transmissive resin and a light transmissive diffusing layer are not factors at all which influence the materials and structures of the first substrate and the light scattering layer of the present careen. Accordingly, Iwata et al does not anticipate the present invention and withdrawal of the rejection is respectfully requested.

Since the reference does not anticipate the invention as described in Claim 1, the aspects of Claims 2, 3, 5 and 14-16, all of which depend upon Claim 1, also are not anticipated by the reference.

Claim 4 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Yoshida et al, U. S. Patent 6,421,181. This ground of rejection is respectfully traversed.

Claim 4 is directed to a secondary aspect of the invention upon which patentability does not depend. Moreover, Yoshida et al describe a tinted sheet in terms of a rear projection screen that is comprised of a lenticular lens sheet and a Fresnel lens sheet. Fig 1 of the patent shows such a configuration. However, no such projection screen construction is taught in the present invention so that it is clear that the combined references do not suggest the dependent aspect of the invention as set forth in Claim 4. Withdrawal of the rejection is respectfully requested.

Claim 6 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Gehring et al, U. S. Patent Publication 2002/0163722. This ground of rejection is respectfully traversed.

Claim 6 is directed to a secondary aspect of the invention upon which patentability does not depend. Moreover, the line of beads described in paragraph [0103] of the Gehring et al patent is not the same thing as the "bead" of present Claim 6 which is a peripheral line of

material upon which an applied scattering layer rests. Accordingly, the combined references do not suggest the invention and withdrawal of the rejection is respectfully requested.

Claim 7 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Toda et al, U. S. Patent Publication 2006/0033991. This ground of rejection is respectfully traversed.

Claim 7 is directed to a secondary aspect of the invention upon which patentability does not depend. Moreover, the Toda et al patent discloses a projection screen in which a substrate layer material is provided with a layer of particles that have a size of not larger than $1\ \mu\text{m}$ and which are regularly aligned. The scattering layer of the present projection screen is not so limited as the screen that is described in the reference. Accordingly, the combination of references does not describe the present invention and withdrawal of the rejection is respectfully requested.

Claims 8, 9 and 10 stand rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Toda et al, U. S. Patent Publication 2006/0033991 and further in view of Kaminsky et al, U. S. Patent 7,046,439. This ground of rejection is respectfully traversed.

Applicants maintain their position as stated with respect to Iwata et al and Toda et al as stated above. As to the Kaminsky et al patent, it is noted that the publication teaches an optical element that is prepared from a substrate that has a surface roughness of 3 to $200\ \mu\text{m}$ containing a dispersion of minute particles having a particle size dimension of less than 100 nm. As such, the reference requires a surface roughness of a substrate that is well outside the surface roughness requirement of the light diffusing film of Iwata et al which, as noted above, is $0.2\ \mu\text{m}$ or less. That is, the surface of the optical element of Kaminsky et al is at least 10 times greater than the maximum surface roughness of Iwata et al. How then, on what common basis, can the two references be combined. Even with a combination, it is not clear

that the present projection screen as claimed is rendered obvious by the cited references.

Withdrawal of the rejection is respectfully requested.

Claim 9 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Toda et al, U. S. Patent Publication 2006/0033991. This ground of rejection is respectfully traversed.

Claim 9 is directed to subject matter of secondary interest as to the raw materials from which the particles of the scattering layer are formed. This is not matter upon which patentability depends and withdrawal of the rejection is respectfully requested.

Claim 10 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Toda et al, U. S. Patent Publication 2006/0033991. This ground of rejection is respectfully traversed.

Claim 10 is directed to subject matter that is dependent upon Claim 1. As such, Claim 10 further limits the scope of the invention defined in Claim 1 which is believed patentably distinguished over the most relevant of the cited references. Accordingly, withdrawal of the rejection is respectfully requested.

Claims 11 and 12 stand rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 and Toda et al, U. S. Patent Publication 2006/0033991 in view of Kaminsky et al, U. S. Patent 7,046,439 and further in view of Etori et al, U. S. Patent Publication 2001/0005282. This ground of rejection is respectfully traversed.

Claims 11 and 12 are directed to a secondary aspect of the invention which is the use of glass frit or melting agent as a binder. Patentability of the invention does not rest on this subject matter. Moreover, the inapplicability of the Kaminsky et al patent has already been discussed above. Thus, the subject matter of the claims, especially in view of the dependency of Claims 11 and 12 on Claim 1 which is believed to be distinguished over the prior art, is believed to be patentably distinguished. Withdrawal of the rejection is respectfully requested.

Claim 13 stands rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Toshima et al, U. S. Patent 5,831,774. This ground of rejection is respectfully traversed.

Claim 13 is a secondary aspect of the invention which further limits the thickness of the scattering layer to 1 to 5 μm , which specific thickness is not taught by Toshima et al. While the range of 1 to 5 μm may very well reside within the thickness range of 1 to 30 μm taught by Toshima et al, it is not at all clear how one of skill in the art to specifically limit the thickness of the scattering layer of the present claims to 1 to 5 μm . Accordingly, the aspect of Claim 13 is believed to be patentably distinguished over the cited prior art and withdrawal of the rejection is respectfully requested.

Claims 17, 18 and 19 stand rejected based on 35 USC 103(a) as obvious over Iwata et al, U. S. Patent 6,327,008 in view of Choi et al, U. S. Patent Publication 2006/0012876. This ground of rejection is respectfully traversed.

It is clear that the Choi et al publication discloses a double-sided image film screen. However, since the projection device of the present invention is not obvious to one of skill in the art in view of the Iwata et al disclosure, the use of the present projection device in the manner described in the Choi et al publication is not obvious. Accordingly, the invention as claimed is believed to be unobvious and withdrawal of the rejection is respectfully requested.

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Reply to the Office Action of February 6, 2007

It is now believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.

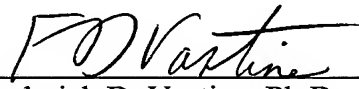
Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)



Frederick D. Vastine, Ph.D.
Registration No. 27,013

NFO:FDV